

6.3 Fuel Types and Uses

Name: _____ Class: _____ Date: _____

Total: 11 marks

Objective

Build the skills to answer exam questions on **fuel types and uses**.

You must be able to:

- match fuels (coal, oil, natural gas) to their main uses
- compare their energy content and pollution
- explain **fuelwood** use in developing regions

1 Worked examples

Study these first. Each one shows the method for a question type used later —follow the steps and you can do the Practice and Exam-style questions yourself.

■ Main fuels and uses

- **Coal** —mainly for **electricity** generation; high CO₂ and pollution.
- **Oil (petroleum)** —mainly **transportation** (gasoline, diesel).
- **Natural gas** —heating and electricity; **cleanest** fossil fuel (least CO₂ per energy).

■ Pollution ranking

For the same energy, **coal** pollutes most (most CO₂, sulfur), then oil, then **natural gas** (least). This is why gas is often a "bridge" fuel.

■ Fuelwood

In many **developing** regions, **fuelwood** and charcoal are the main energy source for cooking/heating, which can drive deforestation and indoor air pollution.

■ A worked match

A power plant burning coal produces electricity; a car burns gasoline (from oil) — different fuels for different main uses.

2 Practice

Now apply the methods above.

2.1 Which fossil fuel is mainly used for transportation?

[1]

2.2 Which fossil fuel is the cleanest-burning? [1]

2.3 What is the main energy source in many developing regions? [1]

3 Exam-style questions

3.1 Coal is used mainly for [1]

- **A** transportation
 - **B** electricity generation
 - **C** cooking oil
 - **D** plastics only
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3.2 Three power options: coal, natural gas, and oil.

(a) Rank them from most to least CO₂ per unit energy. [2]

(b) State the main use of each. [3]

3.3 Explain why heavy fuelwood use can harm the environment in developing regions.[2]

4 Go further

You are now ready for the real exam questions on this subtopic:

- work through the **6.3 Fuel Types and Uses** lesson on the **Learn** page;
- read the **Fuel Types and Uses** section of the AP Environmental Science handout on the **Know** page.

Solutions

2.1 Oil (petroleum).

2.2 Natural gas.

2.3 Fuelwood (or charcoal/biomass).

3.1 B —electricity generation.

3.2 (a) Coal > oil > natural gas. (b) Coal → electricity; oil → transportation; natural gas → heating/electricity.

3.3 Collecting fuelwood faster than it regrows causes deforestation (erosion, habitat loss), and burning it indoors causes indoor air pollution and health problems.